REMARKS

Claim 1 has been amended herewith. In Claim 1, the Mooney viscosity ($ML_{1+4}(100°C)$) value of "no less than 40" has been deleted and replaced with "no less than 52." Support for the amendment can be found, for example, on page 5, lines 7-9.

New Claims 8-10 are added herewith. Support for Claim 8 can be found in original Claims 1, 4 and 5. Support for Claim 9 can be found in original Claims 1 and 6. Support for Claim 10 can be found in original Claims 4, 5 and 6.

Upon entry of the above amendment, Claims 1-10 will be all the claims pending in the application.

Response to the Rejection of Claims 1, 4 and 7 under 35 U.S.C. § 102

Claims 1, 4 and 7 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 4,955,613 to Gendreau et al. ("Gendreau '613").

Gendreau '613 is relied upon as teaching a one-piece golf ball comprising (a) a rubber composition of 100 parts by weight, (b) 25-45 parts by weight of a metal salt of an unsaturated carboxylic acid; (c) 5-25 parts by weight of a metal oxide and (d) 0.2-2.0 parts by weight of a peroxide, wherein 15-85 parts by weight of the polybutadiene synthesized with a catalyst of rare earth element having more that 40% cis-1,4-linkage and a Mooney viscosity of no more than 50.

Applicants' Response

The present invention is directed to a one-piece golf ball that is easily formed via extrusion. Furthermore, the presently claimed golf ball is characterized by good shot feeling, high rebound resilience, and outstanding flight performance.

The one-piece golf ball of the present invention is formed from a rubber composition composed of 100 parts by weight of rubber base material, 10 to 40 parts by weight of unsaturated carboxylic acid, 10 to 60 parts by weight of metal oxide, and 0.9 to 5 parts by weight of organic peroxide, said rubber base material containing 60 to 100 % by weight based on the weight of a polybutadiene which is synthesized with a catalyst of rare earth element, contains no less than 60% of cis-1,4-linkage, and has a Mooney viscosity (ML_{1+4}(100°C)) no less than 52.

In contrast, the golf ball composition of Gendreau '613 is formed from a rubber composition with a Mooney viscosity (ML_{1+4}(100°C)) of no more than 50. Thus, Gendreau '613 does not teach or suggest each and every element recited in Claim 1.

In addition, although Gendreau '613 teaches a golf ball composition comprising about 25 to about 45 phr of a metal salt of an unsaturated carboxylic acid, Gendreau '613 does not disclose a golf ball composition comprising 10 to 40 parts by weight of unsaturated carboxylic acid.

In view of the foregoing, Applicants respectfully submit that Gendreau '613 does not anticipate the presently claimed golf ball. Applicants further submit that one of ordinary skill in the art would have no motivation to arrive at the presently claimed golf ball in view of the teachings of Gendreau '613. Accordingly, Applicants submit that the § 102 rejection be reconsidered and withdrawn.

Response to the Rejection of Claim 3 under 35 U.S.C. § 103

Claim 3 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gendreau '613 in view of U.S. Patent No. 6,642,314 to Sone et al. ("Sone").

Gendreau '613 is relied upon as teaching neodymium as the preferred lanthanide compound. The Examiner concedes that Gendreau '613 fails to disclose the use of a terminal modifier.

The Examiner relies on Sone as disclosing a rubber composition wherein a terminal modifier is reacted with the rubber composition after polymerization to increase the workability of the composition. It is asserted that one having ordinary skill in the art would have found it obvious to react the rubber having the lanthanide catalyst as taught in Gendreau with the terminal modifier as taught by Sone in order to improve the workability of the composition.

Applicants' Response

For the reasons indicated in the preceding section of the amendment, Applicants submit that Gendreau '613 and Sone fail to teach or suggest every element recited in Claim 3. Applicants, therefore, respectfully submit that the rejection be reconsidered and withdrawn.

Applicants additionally submit that one of ordinary skill in the art would not be motivated to combine a rubber synthesized by a lanthanide catalyst as taught by Gendreau '613 with the terminal modifier of Sone due to the significant differences (*e.g.*, Mooney viscosity of rubber component and the amount of carboxylic acid) between the present invention and Gendreau '613.

Response to the Rejection of Claims 1 and 2 under 35 U.S.C. § 103

Claims 1 and 2 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,929,678 to Hamada et al. ("Hamada") in view of U.S. Patent No. 5,585,440 to Yamada et al. ("Yamada").

Claims 1 and 2 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,929,678 to Hamada et al. ("Hamada") in view of U.S. Patent No. 5,585,440 to Yamada et al. ("Yamada").

Hamada is relied upon as teaching a rubber composition comprising (a) 15-60 parts by weight of an unsaturated carboxylic acid, (b) 22 parts by weight of a metal oxide, (c) 0.5-3.0 parts by weight of a peroxide and (d) at least 40% by weight of polybutadiene having a Mooney viscosity of 45-90 and a cis-1,4 of at least 80%.

The Examiner concedes that Hamada does not teach the rubber being synthesized by a rare earth element catalyst. The Examiner asserts, however, that it would have been obvious to synthesize the polybutadiene with a lanthanide catalyst, as taught by Yamada, in order to improve the workability of the rubber.

Applicants' Response

As an initial matter, Applicants submit that neither Hamada nor Yamada disclose a golf ball material comprising 10 to 40 parts by weight of unsaturated carboxylic acid. Hamada and Yamada each disclose golf ball compositions comprising a unsaturated carboxylic acid metal salt. Thus, the combination of Hamada and Yamada fails to teach or suggest every element recited in the claims.

In addition, Hamada and Yamada fail to render the present invention obvious since one of ordinary skill in the art would not be motivated to combine reference teachings and arrive at the present invention.

As discussed above, Hamada does not disclose a rubber being synthesized by a rare earth element catalyst.

Furthermore, although Yamada discloses a rubber composition synthesized by a lanthanum rare earth-based catalyst, Applicants submit that one of ordinary skill in the art would not have been motivated to modify the rubber of Hamada, in view of the teachings of Yamamda, and been able to arrive at the present invention.

Applicants submit that the properties of a polybutadiene are partially determined by the catalyst that is used for synthesis. Thus, the properties of the polybutadiene of Hamada would vary if a lanthanum rare earth-based catalyst were used. In view of the different properties of the catalysts, Applicants submit that the one of ordinary skill in the art would not have been motivated to arrive at the present invention.

Applicants additionally submit, that a golf ball produced using the rubber of Hamada be inferior to the present invention in terms of rebound resilience.

In view of the foregoing, Applicants respectfully seek that the rejection be reconsidered and withdrawn.

Response to the Rejection of Claim 3 under 35 U.S.C. § 103

Claim 3 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hamada in view of Yamada, further in view of Sone.

For the reasons indicated in the preceding section of the amendment, Applicants submit that Hamada, Yamada and Sone fail to teach or suggest every element recited in Claim 3. Applicants, therefore, respectfully submit that the rejection be reconsidered and withdrawn.

Response to the Double Patenting Rejection

Claims 1, 2, 4 and 7 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1 and 2 of U.S. Patent No. 6,695,716 to Higuchi et al. ("Higuchi") in view of Gendreau '613.

Claim 3 is rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1 and 2 of U.S. Patent No. 6,695,716 in view of Gendreau '613 further in view of Sone.

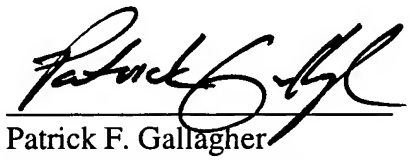
Applicants have filed herewith a Terminal Disclaimer. The filing of a terminal disclaimer to obviate a rejection based on obviousness-type double patenting is not an admission of the propriety of the rejection, and raises neither a presumption nor estoppel on the merits of the rejection.

Accordingly, Applicants submit that the obviousness-type double patenting rejection be reconsidered and withdrawn.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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